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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

MISSOURI and ARKANSAS

DRAINAGE BASINS

April 1, 1940

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Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

April 6, 1940

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SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR MISSOURI AND ARKANSAS RIVERS

April 1, 1940

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service, of the U. S. Department of Agriculture, in cooperation with State departments, other Federal bureaus and local organizations. The snow measurements are made principally by field personnel of the following organizations: Forest Service, National Park Service, Bureau of Reclamation, U. S. Geological Survey, War Department and State Experiment Stations. This work is otherwise conducted cooperatively with the State Engineer of Colorado, State Planning Board of Wyoming, and various municipalities, irrigation associations, power companies and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation		Departure		March Inches	Departure from Normal Inches		
		October 1 to March 31		from Normal Inches					
		Inches		Inches					
Missouri	East. Mont.	2.77		-0.96		0.76	-0.04		
Missouri	Cent. Mont.	4.29		-0.35		0.80	-0.07		
Missouri	North. Wyo.	6.04		-1.33		1.81	+0.17		
North. Platte	Wyoming	5.17		-0.58		1.12	+0.09		
South. Platte	Colorado	5.90		-0.46		1.95	+0.37		
Arkansas	Colorado	4.26		-1.04		0.58	-0.60		

OUTLOOK

Precipitation on the watersheds of the North and South Platte Rivers in Colorado and Wyoming and the Yellowstone River in Wyoming was above normal during March, but it was below normal on the watershed of the Arkansas in Colorado and the Missouri River and its tributaries in Montana. There is, however, a pronounced deficiency in the accumulated precipitation since October 1, 1939 in all the watershed.

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SUMMARY OF APRIL 1 SNOW SURVEYS AND COMPARISON OF DATA

WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth				Water Content			Number courses Report-ing 1940	Snow Density			1940 Water Content in Percent of 1939			
	Five Year Avg.*		1939 1940		Five year Avg.*		1939 1940		Five year Avg.*		1939 1940		Five year Avg.*		
	In.	In.	In.	In.	In.	In.	In.		In.	In.	In.	In.	In.	In.	
MISSOURI RIVER	28.6	28.4	21.8	8.7	9.6	6.8	4	30	34	31	78	71	77	79	
Jefferson River	51.6	51.7	41.2	18.4	18.0	14.2	8	36	35	34	77	79	96	96	
Madison River	31.5	31.5	27.4	9.8	9.8	9.4	3	31	31	34	96	80	80	86	
Gallatin River	28.8	24.8	23.4	8.0	7.4	6.4	7	28	30	27	—	—	—	—	
Missouri River**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Marias River	28.4	28.4	23.5	7.7	7.6	7.1	10	27	27	30	92	93	92	93	
Yellowstone River	52.8	52.3	39.4	15.7	16.4	12.1	4	30	31	31	77	74	74	74	
Shoshone River	45.1	41.8	26.9	13.3	13.4	8.2	10	29	32	30	62	61	61	61	
Bighorn River	12.9	11.3	8.0	3.2	3.1	2.6	2	25	27	32	84	84	84	84	
Tongue River	22.0	22.5	14.6	4.9	5.6	3.2	2	22	25	22	65	57	57	57	
Powder River	57.5	53.6	43.9	19.8	19.3	16.0	11	34	36	36	81	83	83	83	
North Platte River	36.3	28.1	30.9	9.3	8.0	7.7	1	26	28	33	96	96	96	96	
Sweetwater River	36.7	35.0	28.8	11.3	10.8	9.9	9	31	34	31	88	88	88	88	
Laramie River	19.0	22.6	14.4	5.0	5.0	4.1	3	26	22	22	82	82	82	82	
South Platte River***	13.7	15.4	11.9	4.3	4.2	3.5	1	31	27	29	81	83	83	83	
Crow Creek	39.9	40.6	32.1	12.6	12.7	10.7	7	32	31	33	85	84	84	84	
Poudre River	66.8	67.7	56.8	21.8	22.3	17.8	2	33	33	31	82	80	80	80	
Big Thompson River	46.7	45.8	31.7	13.9	13.9	9.6	1	30	30	30	69	69	69	69	
St. Vrain River	27.0	34.0	25.0	9.0	12.4	9.4	2	33	36	38	76	76	76	76	
Boulder Creek	46.6	57.9	31.5	13.2	18.2	10.0	1	28	31	32	76	55	55	55	
Clear Creek	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
ARKANSAS RIVER	31.4	34.4	21.7	9.0	9.3	6.9	9	29	27	32	77	74	74	74	

*Some for shorter periods. **Headwaters of Missouri River ***Above Denver, Colo.

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The water content of the snow on the Jefferson River snow courses in Montana was 6.8 inches on April 1 and 9.6 inches a year ago. The five-year average for these courses is 8.7 inches. For the Madison River courses the depths on these dates were 14.2 inches, 18.0 inches and 18.4 inches; for the Gallatin River course the depths were 9.4 inches, 9.8 inches, and 9.8 inches; and for the courses on the headwaters of the Missouri River the depths were 6.4 inches, 7.4 inches, and 8.0 inches. No comparable data are available for the Marias River courses because the surveys were not made in time to be included in this report.

The water content of the snow on the courses on the Yellowstone River on April 1 was 7.1 inches, which is practically the same as it was a year ago. It is also practically the same as the five-year average. On the Shoshone watershed the water content of the snow was 12.1 inches on April 1, this year; a year ago it was 16.4 inches. The five-year average for April 1 is 15.7 inches. For the Bighorn River courses the water contents on these dates were 8.2 inches, 13.4 inches, and 13.3 inches. The water content of the snow on the North Platte courses was 16.0 inches on April 1, and 19.3 inches on this date a year ago. The five-year average is 19.8 inches. The water contents for the Laramie River courses on these dates were 9.9 inches, 10.8 inches, and 11.3 inches and for the course on the Sweetwater River were 7.7 inches, 8.0 inches, and 9.3 inches.

The snow courses on the South Platte basin above Denver, had an average water content of 4.1 inches on April 1, and 5.0 inches a year ago, which is the same as the five-year average. The corresponding water contents for these dates were 10.7 inches, 12.7 inches, and 12.6 inches for the Poudre River courses; 17.8 inches, 22.3 inches, and 21.8 inches for the Big Thompson River courses; 9.6 inches, 13.9 inches and 13.9 inches for the course on the St. Vrain; 9.4 inches, 12.4 inches, and 9.0 inches for the Boulder Creek courses; and 10.0 inches, 18.2 inches, and 13.2 inches for the course on Clear Creek. The water content of the snow on the Crow Creek course was 3.5 inches on April 1, 4.2 inches a year ago. The five-year average is 4.3 inches.

Reservoir storage in the North Platte Basin at present is only 36 percent of what it was last year, but 63 percent of what it was two years ago. The Shoshone Reservoir was drawn down last winter to permit carrying on some construction work and, consequently, there is very little water in storage at the present time. Storage in Jackson Lake is normal. Storage in the reservoirs along the upper South Platte is 80 percent of what it was last year at this time, and 80 percent more than it was two years ago. In the Lower South Platte Valley the storage is 63 percent of what it was a year ago and the same as it was two years ago. Reservoir storage on the watershed of the tributaries of the South Platte is much below normal. The Poudre River reservoirs have only a third as much in storage as they did a year ago and two-thirds as much as they had two years ago. Reservoirs on the Thompson and St. Vrain Rivers are still practically empty. Most of the reservoirs in the Arkansas Valley also are empty.

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The surface soil is very dry in most areas in Wyoming, and the subsoil also is deficient in moisture. Surface soil moisture is from fair to good in the valleys of the South Platte and Arkansas in Colorado, but it is drying out rapidly. There is still a general shortage of subsoil moisture. There has been no material increase in stream flow although there has been some melting of low lying snow.

The deficiency in snow cover and in precipitation, the shortage of stored water in reservoirs, and the lack of moisture in the soil, make the outlook for irrigation water this summer unfavorable at the present time. It should be kept in mind, however, that our greatest precipitation usually occurs during the next three months and a few heavy storms might, in a short time, considerably improve the situation. The present indications are that the runoff from the Missouri River and its tributaries in Montana will be 25 percent less than last year and that the runoff from the Yellowstone will be only slightly less than ~~a~~ **year** ago. The runoff from the Bighorn and Shoshone will probably be considerably less than last year. The indications are that the runoff from the North Platte and the Laramie River watersheds will be from 10 to 20 percent less than **in** 1939. This is true also for the South Platte, Poudre and Big Thompson. The runoff from the St. Vrain, Boulder Creek and Clear Creek will be much less unless conditions improve. This also is the situation in the Arkansas River Valley.

MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued April 6, 1940, at Fort Collins, Colo.

Main Drainage and Snow Course No.	Local Drainage	State	Locality	Description	Elev.	National Forest	Apr. 1 Snow Course Measurements		
							Av.	Snow Depth	Av. Water Content
							Avg.	1939	1940
JEFFERSON RIVER							In.	In.	In.
6 Camp Creek*	Red Rock Cr.	Idaho	6mi.N. Spencer	21-13N-36E	6800	Targhee	29.7	16.8	13.8
7 Moose Creek*	N.Fk. Big Hole	"	3mi.S. Gibbons P.	27-27N-21E	6200	Salmon	38.6	29.1	13.0
7 East Fork R.S.*	Rock Creek	Mont.	13mi.NE. Sulia	16-2N-17W	5400	Bitterroot	10.8	5.5	3.3
10 Gibbons Pass	N.Fk. Big Hole	"	Gibbons Pass	4-2S-19W	7100	"	5.4	21.4	20.5
30 Pipestone Pass	Pipestone Cr.	"	Pipestone Pass	11-1N-7W	7200	Deer Lodge	16.7	12.0	4.8
Elkhorn Hot Spgs	Wise River	"	8mi.N. Polaris	15-4S-12W	8450	Beaver Head	29.3	31.6	8.4
31 Storm Lake	Seymour Cr.	"	15mi.W. Anaconda	19-4N-13W	8100	Deer Lodge	28.6	21.8	8.7
MADISON RIVER				Average for Drainage			28.6	28.4	8.7
2 Aster Creek*	Firehole R.	Wyo.	Lewis Lake	44-3N-10-6W	7700	Yellowtail P.	75.0	81.4	61.6
8 Lewis L. Divide*	"	"	3mi.S. Lewis L.	44-2N-10-7W	7900	"	104.1	123.0	40.7
11 Morris Basin	Gibbon River	Idaho	Morris Basin	44-3N-10-7W	7500	"	24.3	25.6	23.0
3 Big Springs*	South Fork	Mont.	Big Springs	34-14N-44E	6500	Targhee	49.9	49.9	41.0
16 West Yellowstone	South Fork	"	W. Yellowstone	34-13S-5E	6700	Gallatin	33.2	24.7	22.8
Twenty-one Mile*	Greyling Cr.	"	8mi.S. Gallatin	1-11S-5E	7150	Yellowtail P.	47.4	39.3	34.3
Hebgen Dam	Cabin Creek	"	Hebgen Dam	22-11S-3E	6550	Gallatin	39.5	29.6	28.8
Valley View	Denny Cr.	Idaho	5mi.E. Henry's L.	7-15N-44E	6500	Targhee	39.4	39.9	31.0
GALLATIN RIVER			Average for Drainage		51.6	51.7	41.2	18.4	18.0
Devil's Slide	Eyalite Cr.	Mont.	20mi.S. Bozeman	14-5S-6E	8100	Gallatin	63.9	62.4	26.4
Hood Meadow	"	"	14mi."	22-4S-6E	6600	"	25.5	23.6	23.6
Hood Meadow Extn	"	"	14mi."	22-4S-6E	6600	"	19.5	24.0	24.0
Mystic Lake No.1	Bozeman Cr.	"	12mi.S.E.	31-3S-7E	6600	Yel. Yellowtail P.	47.4	39.3	34.3
Mystic Lake No.2	"	"	"	31-3S-7E	6600	"	47.4	31.5	31.5
Twenty-One Mile	Gallatin River	"	8mi.S. Gallatin	1-11S-5E	7150	Gallatin	63.9	7.9	7.5
Ross Peak	Ross Cr.	"	12mi.N. Bozeman	10-1N-6E	7900	Average for Drainage	27.4	9.8	9.4

*On adjacent Drainage
†Readings March 15

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Main Drainage and Snow Course No.	Local Drainage	State	Location	Descrip- tion	Course Measurements						
					Apr. 1		Snow		Av. Water Content		
					Avg.	1939	1940	Avg.	1939	1940	
Elev.	National Forest				In.	In.	In.	In.	In.	In.	
MISSOURI RIVER											
6 Chessman Res.	Tennile Cr.	Mont.	11mi. SW. Helena	2-8N-5W	6200	Helena	16.8	10.3	8.2	4.5	
11 Goat Mountain	South Fcrk	"	26mi. W. Gilman	47.5NN112.9W	7000	Lewis & Clark	22.9	18.4	6.8	9.1	
36 Temple Pass	Canyon Creek	"	Stemple Pass	16-13N-7W	6900	Helena	26.0	27.1	25.0	7.3	
41 Tennile Cr. Lower	Tennile Cr.	"	17mi. SW. Helena	13-8N-6W	6250	"	20.9	16.6	13.7	5.3	
42 Tennile Cr. Middle	"	"	"	13-8N-6W	6800	"	35.2	33.2	27.5	9.3	
43 Tennile Cr. Upper	"	"	"	19-8N-5W	8000	"	40.9	38.8	34.3	11.9	
Grasshopper	Grasshopper Cr.	"	6mi. S.W.S. Spgs	19-9N-3E	7000	Lewis & Clark	13.7	13.7	13.7	3.3	
King's Hill	Belt Creek	"	21mi. N.W.S. Spgs	35-13N-7E	7950	"	38.8	40.8	36.8	11.0	
Crville Harris	Musselshell R.	"	12mi. E.W.S. Spgs	31-10N-9E	6500	"	"	15.2	24.8	23.4	
MARIAS RIVER			Average for Drainage		28.8		24.8	23.4	8.0	7.4	
7 Doser Mountain*	Gutbend Cr.	Mont.	4mi. S. Belton	24-31N-19W	5600	Flathead	--	34.0	--	12.0	
20 Marias Pass	Two Medicine	"	Summit	48.3NN113.4W	5250	Glacier NP	42.2		20.4		
YELLOWSTONE RIVER											
Camp Senia	W.Br. Rock Cr.	Mont.	10mi. W. Redlodge	2-8S-18E	7870	Custer	21.9	26.6	16.0	4.5	
Cooke City	Scda Butte Cr.	"	25-9S-14E	7400	Absaroka	26.0	23.0	19.0	7.2	6.6	
Crevice Mtn. #1	Yellowstone R.	"	6mi. E. Gardiner	26-9S-9E	8400	Yel. Nat. P.	34.6	31.8	30.0	9.7	9.5
Crevice Mtn. #2	"	"	"	25-9S-9E	8200	"	34.8	31.6	30.0	9.8	9.2
Porcupine Cr.	"	"	12mi. NE. Wilsall	10-4N-10E	6500	Absaroka	19.5	--	14.0	4.5	3.4
Canyon	Tower Creek	Wyo.	8mi. N. Canyon Jct.	44.7NN110.5W	7750	Yel. Nat. P.	33.6	33.2	34.0	6.6	10.3
7 Lake Camp	Yellowstone R.	"	3mi. N. Fishing B.	44.6NN110.4W	7850	"	28.0	27.0	29.0	7.7	8.4
40 Lupine Creek	Lupine Creek	"	11mi. SE. Gardiner	44.9NN110.6W	7300	"	29.3	29.1	21.4	8.3	6.6
41 Blacktail Deer Cr.	Blk. Tail D. Cr.	"	"	"	7500	"	33.9	33.3	24.7	10.0	7.6
42 Beaver Dams	"	"	"	"	7200	"	22.2	19.6	17.1	6.8	5.5
			Average for Drainage		28.4		28.4	23.5	7.7	7.6	

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				National Forest		Av. Snow Depth	Av. Water Content
				In.	In.		
SHOSHONE RIVER							
32 Sylvan Pass	Middle Cr.	7100 Sylvan Pass	Yel. Nat. P.	43.0	40.4	12.7	11.9
33 Up. Hardpan Basin	Hardpan Cr.	25-51N-106W	Shoshone	36.7	39.5	8.4	9.6
50 Brooks Lake #3*	Shoshone R.	23-44N-110W	Mashakie	58.5	57.4	17.4*	18.6*
Brooks Lake #1*	"	25-44N-110W	"	73.0	71.8	24.4	25.6
			Average for Drainage	52.8	52.3	39.4	39.7
BIGHORN RIVER							
Brooks Lake #1	Wind River	25-44N-110W	Mashakie	73.0	71.8	24.4	25.6
12 Togwotee Pass	Wind River	29-44N-110W	Teton	74.9	72.6	25.7	26.8
13 Tensleep R.S.	Tensleep Cr.	30-49N-86W	Bighorn	29.4	27.0	20.7	21.2
15 Shell Creek R.W.	Shell Creek	19-53N-88W	"	24.3	15.8	—	5.9
16 Ranger Creek	Ranger Creek	32-53N-88W	Washakie	34.5	31.5	20.4	21.4
45 Sawmill Glade	Popo Agie R.	3-31N-101W	8500	—	12.4	—	—
46 Blue Ridge	"	13mi. SW. Lander	"	—	16.7	—	—
47 South Pass	"	15mi. " "	"	—	28.3	—	—
48 Wood River	L.Pomo Agie R.	13-30N-101W	"	—	—	—	—
49 Sheridan Cr.R. S.	Wood River	28-46N-103W	Shoshone	20.9	16.74	8.7	5.0*
50 Brooks Lake #3	#2 Sheridan Cr.	3-42N-109W	7500	Washakie	58.5	57.4	17.4*
	Brooks Lake	23-44N-110W	"	9200	"	—	—
			Average for Drainage	45.1	41.8	26.9	23.3
TONGUE RIVER							
14 Dome Lake	Goose Cr.	11-53N-87W	Bighorn	—	—	—	—
17 Big Goose Cr.R. S.	E. Goose Cr.	20mi. SW. Sheridan	"	12.9	11.3	8.3	3.2
		4-53N-86W	Average for Drainage	7700	—	13.6	4.8
POWDER RIVER							
30 Red Fork	Middle Fork	18-43N-85W	Cff. Forest	24.5	27.6	11.4	5.8
31 Sour Dough	Sour Dough Cr.	17-49N-84W	8500	Bighorn	19.4	17.5	17.7
			Average for Drainage	22.0	22.5	14.6	4.9

*On adjacent drainage
+ Readings on original course.

MISSOURI AND ARKANSAS RIVER WATERSHEDS

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Main Drainage and No. Snow Course	Local Drainage	Location	State	Locality	Description	Elev. Forest	April 1 Snow Course Measurements		Av. Water Content		Av. Snow Depth		Av. Water Content	
							1939		1940		Ave.		1939	
							In.	In.	In.	In.	In.	In.	In.	In.
No. PLATTE RIVER														
1 Cameron Pass	Michigan Cr.	Colo.	Cameron Pass	2-6N-76W	10300	Roosevelt	66.2	64.7	51.6	22.3	23.0	17.6		
7 Park View	Illinois Cr.	"	7 mi. SE. Rand	24-5N-78W	9200	Routt	36.9	38.1	27.8	12.1	14.0	10.0		
8 Columbine Lodge	Grizzly Cr.	"	Rbt. Ears Pass	21-5 N-82W	9300	"	64.9	60.7	46.9	22.8	22.2	17.9		
51 Big Creek Lake	Big Creek	"	5 mi. SW. Pearl	9-11N-82W	9000	"	36.4	34.0	20.3	9.5	8.6	6.3		
62 Willow Creek P.*	Illinois Cr.	"	Willow Cr. Pass	1-4 N-78W	9500	Arapaho	46.9	49.3	38.7	14.5	16.2	12.4		
7 Bottie Creek	Encampmt Cr.	Wyo.	7 mi. SW. Encampmt	24-14N-85W	8200	Medicine Bow	47.5	39.0	30.2	16.2	13.0	9.8		
8 Webber Spring	"	"	10 mi. W.	27-14N-85W	9000	"	60.3	51.2	38.9	21.1	17.5	14.1		
9 Old Battle	N. French Cr.	"	12 mi. W.	29-14N-85W	9800	"	87.9	77.2	68.1	32.1	29.8	24.7		
37 North French Cr.	N. Barrett Cr. #2	"	Cent/Saratoga	27-16N-80W	10200	"	81.9	81.1	74.6	32.7	33.9	29.2		
38 N. Barrett Cr. #2	Barrett Cr.	"	"	30-16N-80W	9400	"	63.6	62.5	56.7	22.4	23.7	21.6		
39 Ryan Park #2	"	"	"	34-16N-81W	8400	"	40.0	31.9	28.8	12.1	10.2	12.3		
SWEETWATER RIVER						Average for Drainage	57.5	53.6	43.9	19.8	19.3	16.0		
29 Grannier Meadows	Rock Creek	Wyo.	20 mi. SW. Lander	19-30N-100W	9000	Washakie	36.3	28.1	30.9	9.3	8.0	7.7		
LARAMIE RIVER														
3 Brooklyn Lake	Nash Fork	Wyo.	7 mi. NW. Centennial	11-16N-79W	10200	Medicine Bow	63.1	50.5	43.2	21.7	18.6	15.3		
11 Fox Park	Fox Creek	"	Fox Park	21-13N-78W	9200	"	32.9	25.1	23.5	10.0	7.3	9.2		
34 Pole Mountain #2*	Soldier Cr.	"	10 mi. SE. Laramie	35-15N-72W	8700	"	13.7	15.4	11.9	4.3	4.2	3.5		
35 Libby Lodge #2	Libby Creek	"	3 mi. NW. Centennial	29-16N-78W	8700	"	27.5	28.3	18.8	7.9	8.7	6.1		
36 Hairpin Turn #2	Nash Fork	"	5 mi. NW.	24-16N-79W	9500	"	37.7	33.2	25.8	11.0	10.2	7.6		
4 W. Port. G-P Tunnel	Laramie R.	"	4 mi. N. Chambers L.	7-8N-75W	8600	Roosevelt	32.7	31.0	21.2	10.0	9.5	9.4		
50 Deadman Hill*	Deadman Cr.	Colo.	10 mi. W.R. Feather	26-10N-75W	10200	"	46.8	52.2	34.9	13.8	15.5	11.8		
71 Deadman Hill #2*	Deadman Cr.	"	6-9N-74W	10200	"	39.4	43.3	28.2	11.4	12.2	8.8			
85 Roach	LaGarde Cr.	"	5-10N-77W	9800	"	52.1	52.1	52.1	52.1	52.1	52.1	17.3		
			Average for Drainage	36.7	35.0	28.8	11.3	10.8	10.8	10.8	10.8	9.9		

*On adjacent drainage

*Readings on original course

MISSOURI AND ARKANSAS RIVER WATERSHEDS

Summary of Federal and State Cooperative Snow Surveys

Issued April 6, 1940 at Fort Collins, Colo.

Main Drainage and No. Snow Course	Local Drainage	State	Locality	Location	Descrip- tion	Elev. National Forest						Apr. 1 Snow Course Measurements					
						Av. Snow Depth		Av. Water Content		Av. Snow Depth		Av. Water Content		Av. Snow Depth		Av. Water Content	
						In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
SOUTH PLATTE RIVER		Colo.	Hoozier Pass	13-8S-78W	11400	Pike	42.9	55.4	21.9	12.0	13.6	6.3					
14 Hoosier Pass	S•Platte R.	"	Fairplay	33-9S-77W	10000	"	2.6	4.9	0.0	0.3	0.4	0.0					
15 Fairplay	"	"		14-7S-76W	10100	"	11.5	7.4	21.2	2.6	1.0*	6.0					
83 Jefferson Cr. #2	Jefferson Cr.	"		Average for Drainage			19.0	22.6	14.4	5.0	5.0	4.1					
CROW CREEK		Wyo.	10mi. SE. Laramie	35-15N-72W	8700	Medicine Bow	13.7	15.4	11.9	4.3*	4.2	3.5					
34 Pole Mountain #2	Crow Creek																
POUDRE RIVER																	
1 Cameron Pass	Joe Wright Cr., Colo.		Cameron Pass	2-6N-76W	10300	Roosevelt	66.2	64.7	51.6	22.3	23.0	17.6					
2 Chambers Lake	Poudre River	"	Chambers Lake	6-7N-75W	9000	"	23.5	21.7	21.5	8.0	7.3	7.8					
3 Big South	"	"	2mi. E. Chambers L.	33-8N-75W	8600	"	8.3	5.5	8.8	2.3	1.3	2.6					
50 Deadman Hill	N. Poudre R.	"	10mi. W. R. Feather	26-10N-75W	10200	"	46.8	52.2	34.9	13.8	15.5	11.8					
65 Lake Irene*	Big S. Poudre	"	1mi. SW. Milner P.	8-5N-75W	10600	Ry. Mtn. N. P.	68.0	68.0	56.7	22.9	20.9	19.4					
68 Hour Glass Lake	L. S. Poudre	"	2mi. NW. Pingree P.	18-7N-73W	9500	Roosevelt	27.4	28.6	22.8	7.7	8.4	6.8					
71 Deadman Hill #2	N. Poudre R.	"	8mi. SW. R. Feather	6-9N-74W	10200	"	39.4	43.3	28.2	11.4	12.2	8.8					
			Average for Drainage				39.9	40.6	32.1	12.6	12.7	10.7					
BIG THOMPSON																	
65 Lake Irene*	Big Thompson R., Colo.	1mi. SW. Milner P.	8-5N-75W	10600	Ry. Mtn. N. P.	68.0	68.0	56.7	22.9	20.9	19.4						
67 Fall River	"	12mi. W. Estes P.	6-5N-74W	10600	"	65.7	67.4	57.0	20.7	23.7	16.2						
ST. VRAIN RIVER																	
41 Wild Basin	N. St. Vrain R., Colo.	5mi. W. Allens P.	24-3N-74W	10000	Ry. Mtn. N. P.	46.7	45.8	31.7	13.9	13.9	9.6						
BOULDER CREEK																	
5 E. Port. Moffat T. S. Boulder Cr.	East Portal	2-2S-74W	9400	Roosevelt	11.4	8.5	4.4	3.1	2.6	1.9							
60 University Camp #2N. Boulder Cr.	5mi. SW. Ward	28-1N-73W	10300	"	42.6	59.6	45.4	14.8*	22.3	17.0							
		Average for Drainage				27.0	34.0	25.0	9.0	12.4	9.4						

*On adjacent Drainage

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							Av. Snow Depth			Av. Water Content			Av. Snow Depth			Av. Water Content		
							Avg.	1939	1940	Avg.	1939	1940	In.	In.	In.	In.	In.	In.
CLEAR CREEK																		
61 Loveland Pass #2	Clear Creek	Colo.	10mi.W. Georgetown	27-4S-76W	10100	Arapaho	46.6	57.9	31.5	13.2*	18.2	10.0						
ARKANSAS RIVER																		
19 Tennessee Pass	Tennessee Cr. Col.	•	Tennessee Pass	21-8S-80W	10200	Cochetopa	36.7	44.7	19.4	8.9	9.0	5.2						
21 Twin Lakes Tun.	Lake Creek	"	9mi.W.Twin Lakes	22-11S-82W	10500	"	38.9	44.0	22.7	9.7	10.2	7.2						
42 Marshall Creek*	Marshall Creek	"	Marshall Pass	24-48E.6E	10800	"	45.5	49.8	32.7	13.8	13.4	10.8						
43 Poncha Creek	Poncha Cr.	"	"	"	"	"	35.1	40.3	30.0	10.9	12.1	10.2						
72 Whiskey Creek #2	Whiskey Cr.	"	Whiskey Cr. Pass	37-2M105.2W	10300	Maxwell Cr.	26.7	18.3	13.7	7.4	6.1	5.2						
74 LaVeta Pass #2*	Cuchara Cr.	"	LaVeta Pass	22-28S-7CW	9300	San Grist Cr.	23.1	22.6	15.5	6.8*	7.2	5.5						
78 Four Mile Park #2	Lake Creek	"	3mi.SW.Twin L.	23-11S-81W	9700	Cochetopa	7.7	10.1	2.4	2.0*	2.9	0.8						
79 Fremont Pass #2	E. Fork Arv.R.	"	Fremont Pass	2-8S-79W	11400	Arapaho	51.1	66.8	41.7	16.7*	19.6	11.4						
81 Blue Lakes #2	Cuchara Cr.	"	15mi.SW.LaVeta	30-31S-69W	10000	San Isabel	18.1	13.4*	17.1	4.6*	3.3*	6.0						
			Average for Drainage				31.4	34.4	21.7	9.0	9.3	6.9						

*On adjacent drainage

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series of meetings on the subject of
reducing costs.